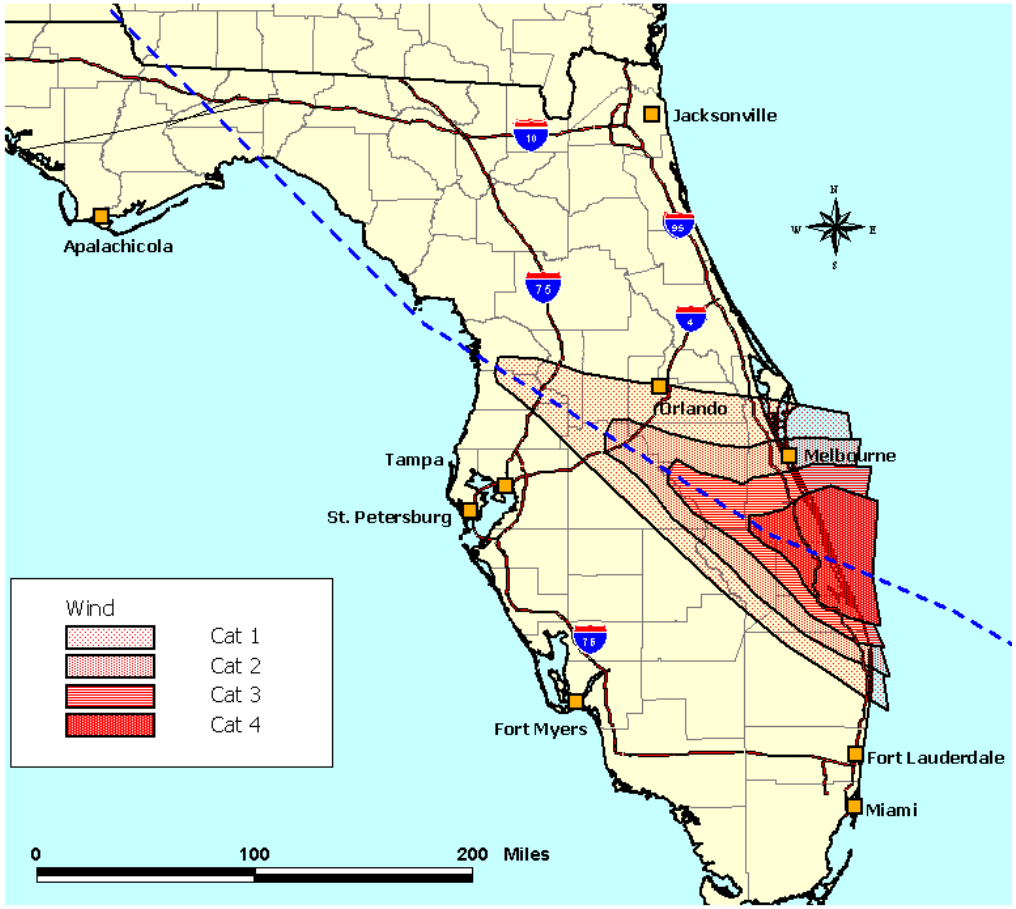
Hurricane Frances Wind Distribution

Landfall Expected Within **36** Hours

For Official Use Only!



Most Probable Landfall Wind Distribution

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Wind Field

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

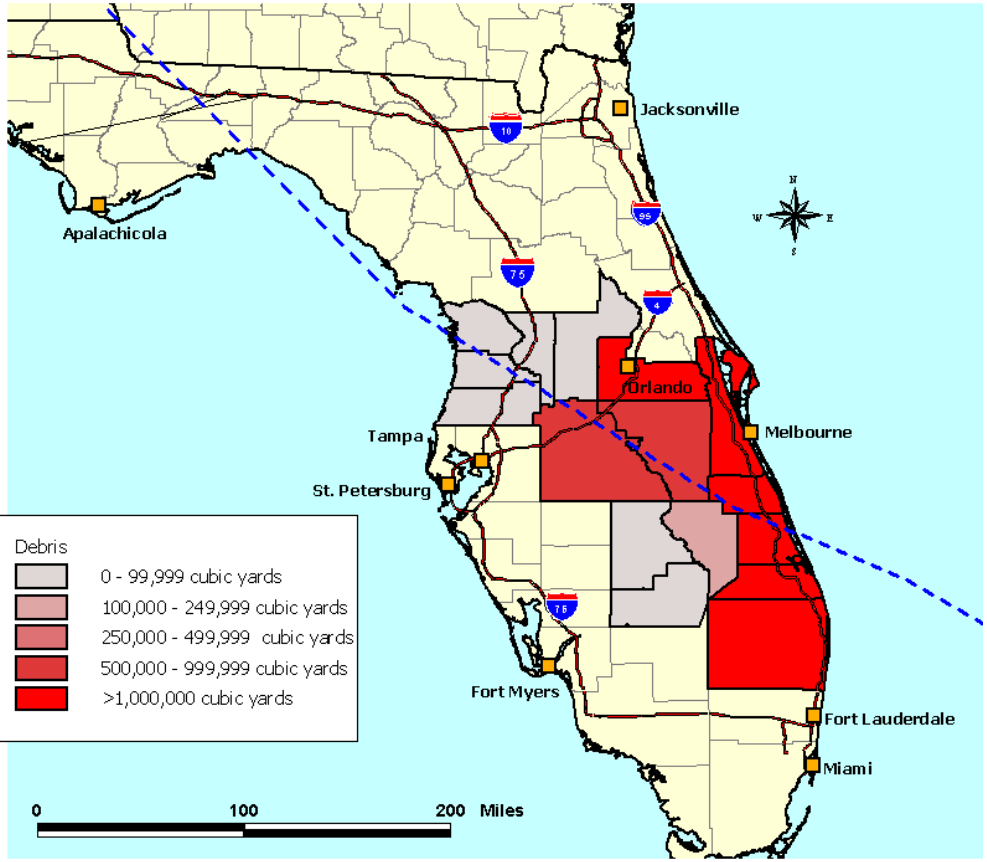
Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/03/2004

Hurricane Frances Debris Model

Landfall Expected Within **36** Hours

For Official Use Only!



Most Probable Landfall Debris Model Results

Florida – 27,802,000 yd^3

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast.

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Debris Model

Sources: HURREVAC LRL-DEBRIS

Generated By: Terry Siemsen

Generated Date: 0630 EDT 09/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Debris Model

Landfall Expected Within **36** Hours

For Official Use Only!

State	County	Yards Per County
Florida		
	Brevard	3,600,000
	Citrus	35,000
	Glades	1,000
	Hernando	60,000
	Highlands	27,000
	Indian River	5,800,000
	Lake	86,000
	Martin	5,000,000
	Okeechobee	250,000
	Orange	800,000
	Osceola	630,000
	Palm Beach	3,330,000
	Pasco	30,000
	Polk	675,000
	St Lucie	7,450,000
	Sumter	28,000
TOTAL		27,802,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Debris Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

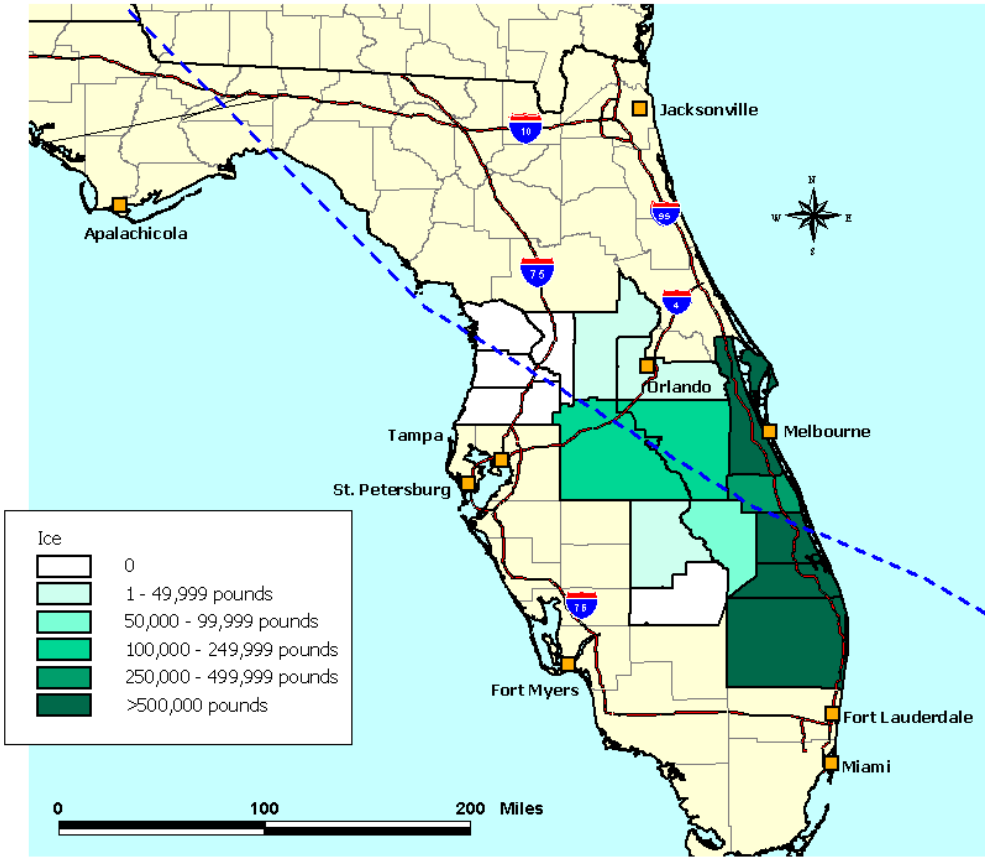
Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/3/2004

Hurricane Frances Ice Model

Landfall Expected Within **36** Hours

For Official Use Only!



Most Probable Landfall Ice Model Results

Florida – 3,398,000 pounds

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast. The intensity of this hurricane has been altered to complete model runs.

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Ice Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Ice Model

Landfall Expected Within **36** Hours

For Official Use Only!

State	County	Pounds Per County
Florida		
	Brevard	650,000
	Highlands	3,000
	Indian River	485,000
	Lake	3,000
	Martin	502,000
	Okeechobee	55,000
	Orange	1,000
	Osceola	168,000
	Palm Beach	550,000
	Polk	151,000
	St Lucie	830,000
TOTAL		3,398,000

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Frances will have power outage in this area will cause a need for ice.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Ice Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

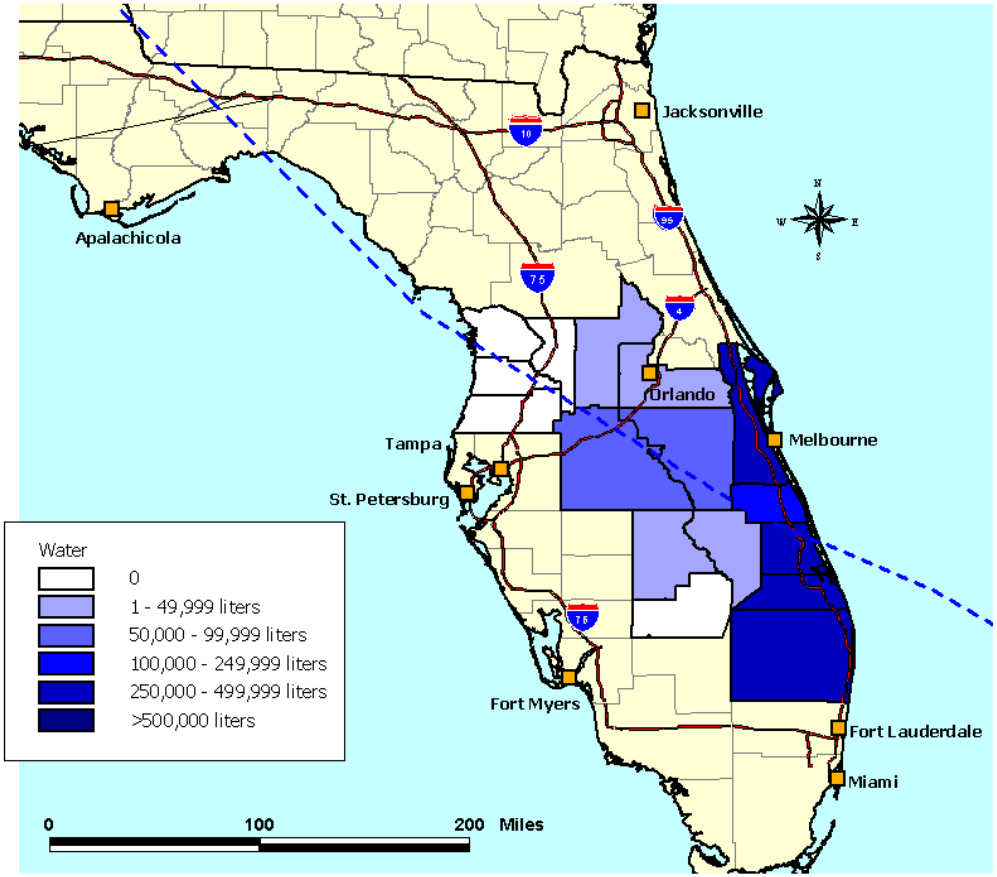
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Water Model

Landfall Expected Within **36** Hours

For Official Use Only!



Most Probable Landfall Water Model Results

Florida – 1,708,000 liters

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast.

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Water Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

Hurricane Frances Water Model

Landfall Expected Within **36** Hours

For Official Use Only!

State	County	Liters Per County
Florida		
	Brevard	325,000
	Highlands	2,000
	Indian River	240,000
	Lake	2,000
	Martin	251,000
	Okeechobee	35,000
	Orange	1,000
	Osceola	79,000
	Palm Beach	291,000
	Polk	79,000
	St Lucie	403,000
TOTAL		1,708,000

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Frances will have power outage in this area will cause a need for water.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Water Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

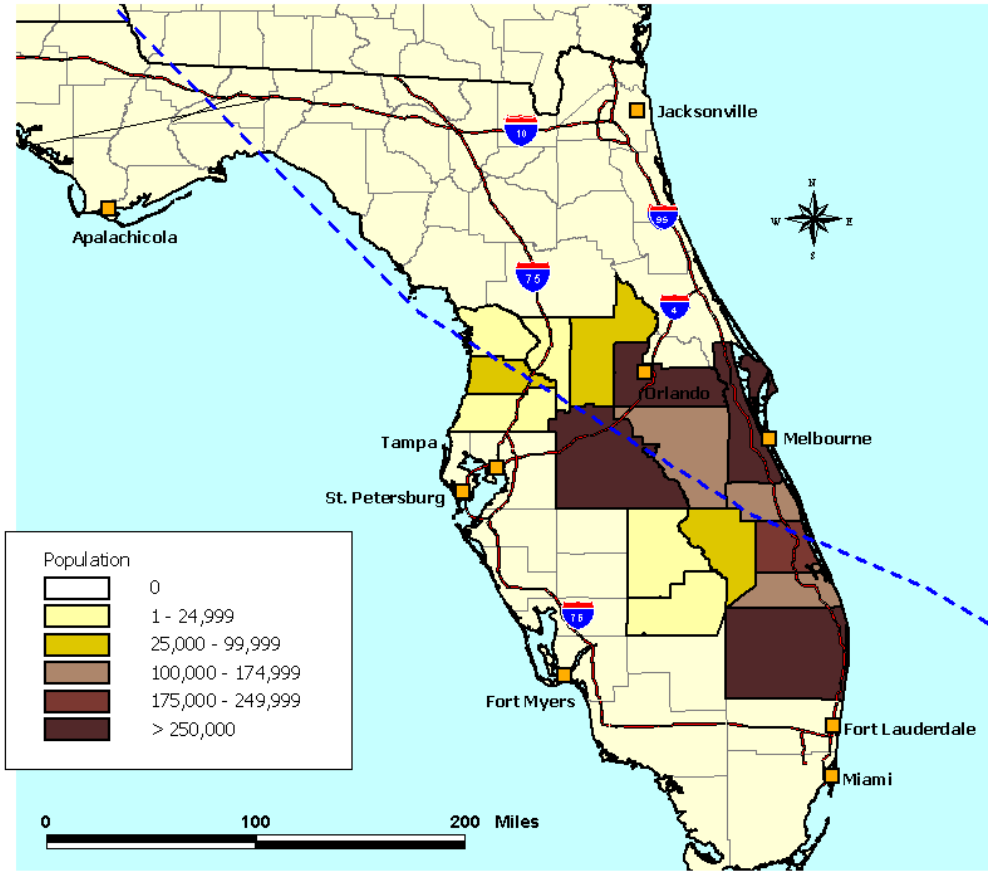
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Population Model

Landfall Expected Within **36** Hours

For Official Use Only!



Most Probable Landfall Population Model Results

Florida – 2,806,000 persons

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast.

The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Population Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Population Model

Landfall Expected Within **36** Hours

For Official Use Only!

State	County	Population
Florida		
	Brevard	411,000
	Citrus	20,000
	Glades	< 1,000
	Hernando	34,000
	Highlands	11,000
	Indian River	112,000
	Lake	51,000
	Martin	125,000
	Okeechobee	34,000
	Orange	663,000
	Osceola	173,000
	Palm Beach	677,000
	Pasco	18,000
	Polk	265,000
	St Lucie	193,000
	Sumter	19,000
TOTAL		2,806,000

The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Population Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Households Model

Landfall Expected Within **36** Hours

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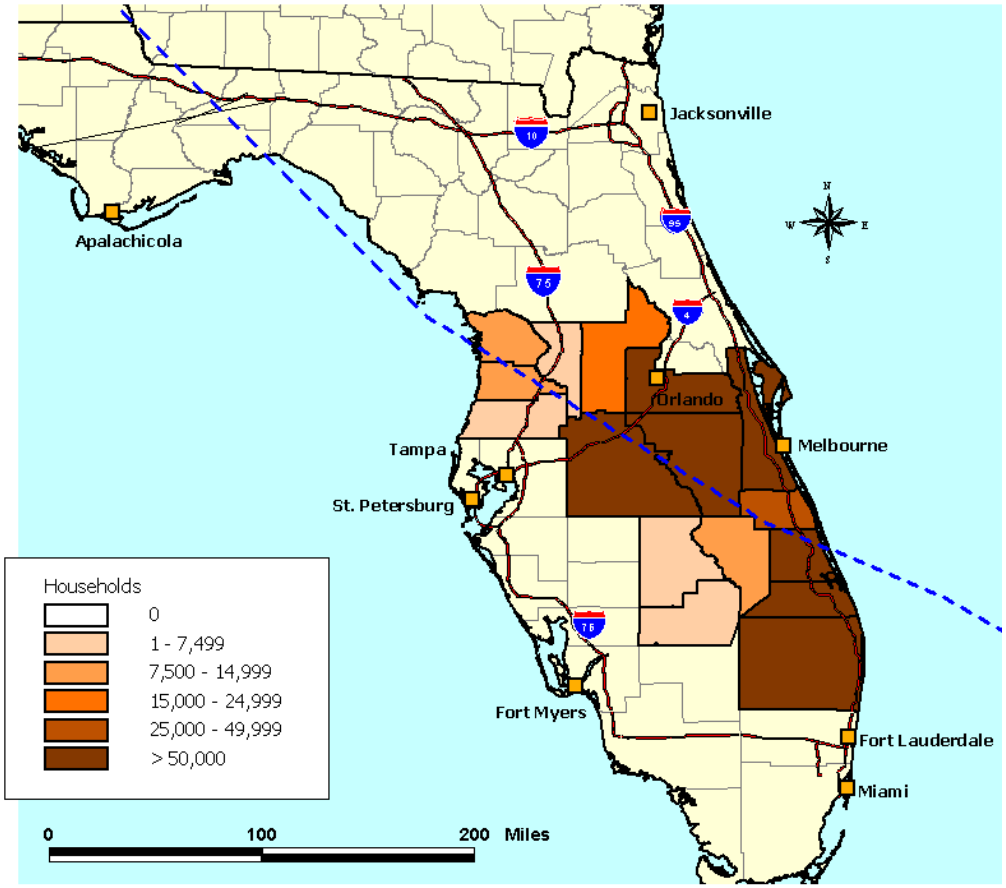

Most Probable Landfall Households Model Results

Florida – 932,000 households

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/03/2004)*** forecast.

The number of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Households Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances Households Model

Landfall Expected Within **36** Hours

For Official Use Only!

State	County	Households
Florida		
	Brevard	171,000
	Citrus	9,000
	Glades	< 1,000
	Hernando	14,000
	Highlands	5,000
	Indian River	49,000
	Lake	19,000
	Martin	55,000
	Okeechobee	12,000
	Orange	248,000
	Osceola	61,000
	Palm Beach	275,000
	Pasco	7,000
	Polk	103,000
	St Lucie	77,000
	Sumter	7,000
TOTAL		932,000

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Households Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Louisville Operations Division GIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/03/2004

Hurricane Frances
Temporary Roofing Model Results

Landfall Expected Within **36** Hours

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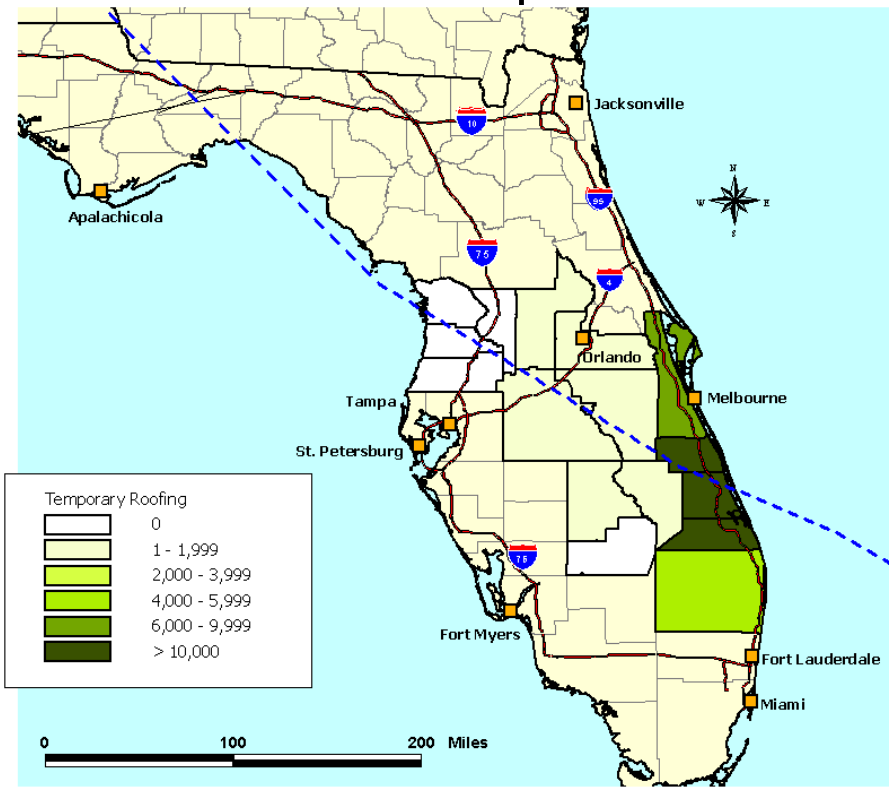


Landfall Temporary Roofing Model Results

Florida - 57,200 structures

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500EDT 9/03/2004)*** forecast.

The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, 5% of units damaged in CAT 2 areas, 10% of units damaged in CAT 3 areas, and 25% of units in CAT4 areas. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances Temp Roofing Model

Sources: HURREVAC LRL-DEBRIS

Generated By: Terry Siemsen

Generated Date 0630 EDT 9/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances
Temporary Roofing Model Results

For Official Use Only!

Landfall Expected Within **36** Hours

State	County	Number of Structures
Florida		
	Brevard	6,700
	Citrus	0
	Glades	0
	Hernando	0
	Highlands	< 100
	Indian River	12,000
	Lake	< 100
	Martin	11,000
	Okeechobee	500
	Orange	< 100
	Osceola	1,500
	Palm Beach	6,000
	Pasco	0
	Polk	1,500
	St Lucie	18,000
	Sumter	0
TOTAL		57,200

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, 5% of housing units damaged in CAT 2 wind areas, 10% of housing units damaged in CAT 3 wind areas, and 25% of housing units damaged in CAT 4 wind areas. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances emp Roofing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
9/03/2004

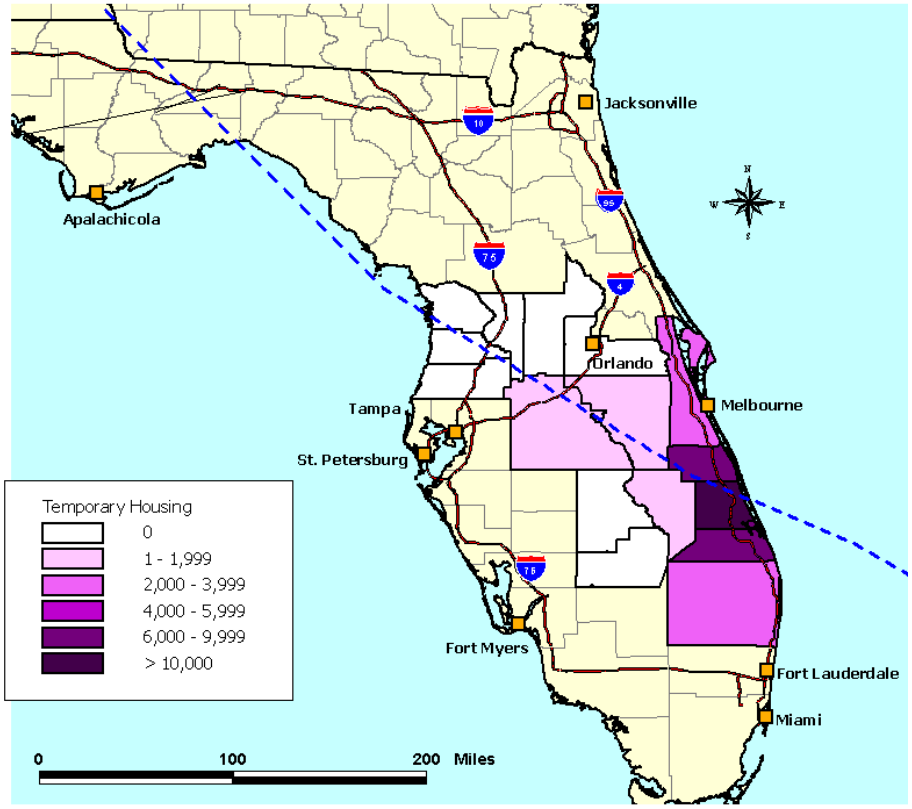
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances
Temporary Housing Model Results

For Official Use Only!

Landfall Expected Within **36** Hours



Most Probable Landfall Temporary Housing Model Results

Florida – 35,200 structures

Model results per county on following page

This hurricane scenario is based on a Category 4 storm making landfall in near proximity to Fort Pierce, FL

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 9/03/2004)*** forecast.

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, 0% of housing units lost in CAT 2 wind areas, 10% of housing units lost in CAT 3 wind areas, and 20% of housing units lost in CAT 4 wind areas.

Details about this model may be obtained at **https://englink.usace.army.mil**
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Frances emp Housing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
9/03/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Frances
Temporary Housing Model Results

For Official Use Only!

Landfall Expected Within **36** Hours

State	County	Number of Structures
Florida		
	Brevard	2,600
	Citrus	0
	Glades	0
	Hernando	0
	Highlands	0
	Indian River	9,200
	Lake	0
	Martin	8,900
	Okeechobee	< 100
	Orange	0
	Palm Beach	2,400
	Pasco	0
	Polk	< 100
	Osceola	100
	St Lucie	14,600
	Sumter	0
TOTAL		35,200

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, 0% of housing units lost in CAT 2 wind areas, 10% of housing units lost in CAT 3 wind areas, and 20% of housing units lost in CAT4 wind areas.

Details about this model may be obtained at
https://englink.usace.army.mil
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US Army Corps of Engineers

Hurricane Frances emp Housing Model

Sources:
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LRL-DEBRIS

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CELRL-OP GIS Group

Louisville Operations Division GIS